

Serial No. 10/556,833
Art Unit 2625PU040092
Customer No. 24498

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CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1 1. (Original) A method for providing film grain information comprising the steps of:
2 characterizing an image information stream to provide information indicative of film
3 grain within the image stream, the film grain information including at least one parameter among
4 a set of possible parameters specifying different attributes of the film grain in the image stream;
5 encoding the film grain information for subsequent transmission.

1 2. (Currently amended) A method for providing film grain information comprising the
2 steps of:
3 characterizing an image information stream to provide information indicative of film
4 grain within the image stream, the film grain information including at least one parameter among
5 a set of possible parameters specifying different attributes of the film grain in the image stream;
6 and
7 encoding the film grain information for subsequent transmission;
8 ~~The method according to claim 1~~ wherein the set of parameters includes a plurality of
9 correlation parameters and a plurality of intensity-independent parameters.

1 3. (Original) The method according to claim 2 wherein at least one correlation
2 parameter defines a spatial correlation in a perceived pattern of film grain.

1 4. (Original) The method according to claim 2 wherein at least one correlation
2 parameter defines a correlation between color layers.

1 5. (Original) The method according to claim 2 wherein at least one correlation
2 parameter defines a temporal correlation resulting from previous processing the image sequence.

1 6. (Original) The method according to claim 2 wherein at least one intensity-
2 independent parameters defines an aspect ratio of the film grain.

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1 7. (Original) The method according to claim 1 wherein at least one parameter defines
2 intensity of a random component of the film grain.

1 8. (Original) The method according to claim 2 wherein at least one of the intensity-
2 independent parameters defines a color space and blending mode operation used to merge the
3 simulated film grain with the image.

1 9. (Original) The method according to claim 1 further comprising the step of
2 transmitting the film grain information transmitted out-of band with respected to transmission of
3 image representative information.

1 10. (Original) The method according to claim 1 further comprising the step of
2 transmitting the film grain information transmitted in band with respected to transmission of
3 image representative information.

1 11. (Original) The method in accordance with claim 2 where the set of parameters are
2 computed in accordance with a second order auto regression representation of the spatial
3 correlation and a first order regression representation of the cross-color and temporal
4 correlations.

1 12. (Original) The method according to claim 3 wherein the at least one parameter
2 describing the spatial correlation of the grain is established in accordance with a spatial
3 convolution model.

1 13. (Original) The method according to claim 3 wherein the at least one parameter
2 describing the spatial correlation of the grain is obtained from cut frequencies of a filter in the
3 Fourier domain.

1 14 (Original) The method according to claim 1 wherein the encoding step comprises
2 encoding the film grain information according to the ITU-T H.264 video coding standard.
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1 15. (Original) Apparatus for providing film grain, comprising :
2 first means for characterizing an image information stream to provide information of film
3 grain within the image stream, the information including at least one parameter among a set of
4 possible parameters specifying different attributes of the film grain in the image stream;
5 second means encoding the film grain information for subsequent transmission.

1 16. (Currently amended) Apparatus for providing film grain, comprising :
2 first means for characterizing an image information stream to provide information of film
3 grain within the image stream, the information including at least one parameter among a set of
4 possible parameters specifying different attributes of the film grain in the image stream;
5 second means encoding the film grain information for subsequent transmission; and
6 ~~The method apparatus to claim 15~~ wherein the set of parameters includes a plurality of
7 correlation parameters and a plurality of intensity-independent parameters.

1 17. (Original) The apparatus according to claim 16 wherein at least one correlation
2 parameter defines a spatial correlation in a perceived pattern of film grain.

1 18. (Original) The apparatus according to claim 16 wherein at least one correlation
2 parameter defines a correlation between color layers.

1 19. (Original) The apparatus according to claim 16 wherein at least one correlation
2 parameter defines a temporal correlation resulting from previous processing the image sequence.

1 20. (Original) The apparatus according to claim 16 wherein at least one intensity-
2 independent parameters defines an aspect ratio of the film grain.

1 21. (Original) The apparatus according to claim 15 wherein at least one parameter
2 defines intensity of a random component of the film grain.

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1 22. (Original) The apparatus according to claim 16 wherein at least one of the intensity-
2 independent parameters defines a color space and blending mode operation used to merge the
3 simulated film grain with the image.

1 23. (Original) The apparatus in accordance with claim 16 wherein the first mean
2 computes the set of parameters in accordance with a second order auto regression representation
3 of the spatial correlation and a first order regression representation of the cross-color and
4 temporal correlations.

1 24. (Original) The apparatus according to claim 17 wherein the at least one parameter
2 describing the spatial correlation of the grain is established in accordance with a spatial
3 convolution model.

1 25. (Original) The method according to claim 17 wherein the at least one parameter
2 describing the spatial correlation of the grain is obtained from cut frequencies of a filter in the
3 Fourier domain.

1 26. (Original) The apparatus according to claim 15 wherein second means encodes the
2 film grain information according to the ITU-T H.264 video coding standard.